Materia Medica

by

Dr Fordyce

No 4.

Materia Medica

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Lect: 45th Sedatives

Acids externally applyd are powerfully sedative, seem to be equally so, whatever one we use provided they be of ye same strength. If so concentrated they act as Stimts. But Taste is perhaps the best Criterion of judging of Vinegar shd be ye standard for diluting ye rest. —

Acids are usefull as Sedatives in all cases of deep seated pain; as in those accompanying Fractures, dislocations, strains. — In Erysipelatous, & pustular of ye Skin & Integuments they are infinitely preferr — They are very usefull as Gargles in pain of ye Mouth, & Throat. Neutral Salts are somewhat sedative externally applyd. —

Alcohol a powerfull Sedative, somewhat astringt but not Stimulant is very usefull in Erysipelatous pustular as those arising from Burns, the Bites of Poisonous Insects &c provided it can

be applyd before a Blister is raised.
if pure it acts too powerfully as an
Astringt. it shd be diluted thro' 2. 3. 4. or
5 times its Quantity of Water.

It has been disputed whether Sedative
or relaxing oily Medicines were most
usefull in Burns, Sedatives seem most
proper in slight Cases.

All Metallic Salts are Sedative
when diluted w. Water & particularly
usefull in Inflam. of y. Eyes, the chief
of these are White, Blue Vitriol &
Saccharr: Saturni these are more pro-
per in Chronic, than in acute Inflam.
of y. Eyes.

Preparations of Lead are seldom
usefull in Phlegm: Inflam: they some
times fetch on Gang. & Mortificat. therefore
hazardous, in Exulcerat. attended w. great
Pain they have not this Disposition.

In hyperacidations Preparat.s of Lead
are applyd w. propriety, particularly

Cerussa, as also Lapis Calaminaris & Alum. this last is particularly usefull in Inflam of ye Eyes, Mouth, & Throat. Crude Alum when applyd to the Eye have a disposition to coagulate its Humours, wch renders it necessary to be changed. Alum Curd made with ye White of an Egg wch be changed every 1/4 of an hour.

All the Vegetable Astringents have been applyd as Sedatives, particularly the Cortices of Limes.

Some of ye farinaceous Seeds as Oats have been applyd as ~~Astringents~~ Sedatives particularly in Eyes in Inflam.

Lastly, Opiums & Coppies are powerfull Sedatives, and may be applyd externally in all Inflam: wt success particularly of the painable parts.

4)

y. Contract. produced on Animal fibres by Astringts. differ from y. produced by the living power, in y. the water then combined is in the former seperated & cannot be recombined. —

The Blood Vessels are always full of Blood, an Astringt. then can only make y. Vessels press more strongly upon their contained fluids, but can't make them diminish in Diameter but in proportn. as they are emptied of Blood; by larger Secretions —

Astringents do not act equally upon all y. Blood Vessels but acts more powerfully upon the small, & accumulates the Blood of course in the great Vessels —

Astringents may act more partic. upon the External, or Internal Vessels in w. case the opposite set are dilated.

The actn. of Astringents upon the muscular fibres is permanent, while y. of ~~the living~~ its acting upon y. living power is temporary. —

Astringents differ, in some of ye. acting part: or solely upon the part to wch they are applyd, whilst others more universally upon the whole System, these latter have their action of shorter continuance than the former yt act upon part: parts.

Astringts are Strengtheners in consequence of their power of accumulatg the Blood in ye greater, & internal Vessls ye strength of ye Patient being always in proport: to ye qtye of Blood contained in the greater Vessels.—

This aport: holds good, only, a certain length, as Astringts may be used so as to produce weakness, when used to excess.—

They may be used wt advantage in relaxedly the Sense to mus: Slar fibres yt have been relaxed, or weakend by over act:, hence they are usefull in Strains & after ye Inflam: is gone

When any of ye Gland: Secretions are increased they Astr: or diminish them in Quantity. they also diminish ye nat: Secretn. but we never use them so

Precautions on the use of Astringts in increased Secretions —

If there be Inflamat. encreased Secret. is the natural Cure, in place of stopg such Secret. ~~always~~ rather promote it, to carry off the Phlegmonous Inflamat. of that part. — encreas'd Secret. may be in consequ. of a Stimulus applyed. if we stop the encreased Secret. whilst the Stimulus remains, Inflamat. is produced. —

The immed. Cause of Secretion is a quantity of Blood in the glands of the part. in consequ. of a Contract. of some distant part. were there not to be encreased Secret., Inflamat. would be produced. — before we cure such Secret. by Astringts we must take away a qty. of Blood from the part by Relaxants. in watry Secret. where there appears to be no phlegm. Inflam. we may use Astringts properly if there be Symptms of Phlegm. Inflam. we sh. avoid Astringents untill the

increased Secret.n has carried off the Inflamat.n

Previous to y.e use of Astringents we shd. evacuate the faces contained in the Intestines.

In Secretions from y.e Urethra produced by the Applicat.n of Ven.l Matter it is questioned whether Astringents are proper.

In Increased Secret.n from y.e Bladder we use Remedies to take off the Irritabil.ty of the habit, as the use of Astringents wd. be of little use there being a cont. Stimulus from the Urine.

In Hæmorages we use Sedative Ast.s

In Hæmorages from the Gums Ast.s are of great use.

Of Particular Astringents

Fossils - Astringents act on the System,

Vegt.le Astringents act for a longer time, Boles are Comp.d of Calx, Iron & Clay, their activity depends upon the Iron.

Calcareous Earth has some slight Astringency & may be exhibited in Diarrhea & certainly danger of encreasing Inflammat.

Boles have been employed in Bruises when the Inflammat. has been previously removed. they have been used in Gargings. but have no great Efficacy.

Alum is a powerfull Astringent but we shd. give it in such a form as to be certain of the Dose.

Lect: 48th May 4th 1772.

Boles acquire diff. Colours as red, blue &c from the Calces of Iron particularly w. which it is mixt hence the Armenian, common Bole & they have been advantageously externally employed in form of Plaisters to restore the Tone & relaxed Muscular fibres. some of them as the Lapis Hibernicus contain a considerable Portion of Alum in their Composition, but alum is exhibited alone w. much greater Propriety & certainty in the Dose.

Alum is formed naturally by Clay being mixt wth Pyrites which being decomposed the Vitriolic Acid unites wth the Clay forming this Earthy Salt Alum as thus formed generally contains a superfluous quantity of Acid wch may be separated from it together wth a quantity of Water contained in its Crystals by exposure to Heat the burnt Alum is thus prepared differing from common alum only in being more active from the quantity of Water evaporated

The best mode of exhibiting Alum seems to be by forming a Whey of sweet Milk which may be drunk the Sugar & Mucilage contained in the Milk in some Measure covers its taste, and renders it less disagreeable

Iron has been employed wth the Vitriolic Acid forming green Vitriol, wth the Muriatic Acid forming Fl^a Martis in Sp^s Salis and wth Sal Ammoniac sublimed forming the Flores Martiales

The Calces of Iron, and the flores Martiales have greater astringency, and less stimulus than the neutral Crystal reactions of the Acids.

Iron has sometimes been used as an astringent in Diarrhoeas its Calces particularly, as already noticed, in the different Doses.

Iron has astringency, but its power in
astring. is mixt w. a strengthening & irritate
powder, hence its use in ye. Chlorosis, Flux albus &c.
Iron is always dissolved in the acid of ye stomach
so ye. it may be used in its metallic form
w. propriety. it is filed down. if the
filings are of a large size they do not
act powerfully qtity of fine, will be
as effectual as ye. x coarse. it may
be rendered still more active by
restoring it from its calcined state
by exposing it to heat in a crucible
w. flower. we thus obtain it in a very
fine powder mixt w. the charcoal of the
flower. all its diff. calces are active
It is employd externally in Poles and

When combind w.th Acids it is more active, we use 3. Vij.t w.th Vit. Acid green Vitriol, Mur.c acid Mart. in Off. Salis, w.th Tartar by Dijest.n in Wine.

Iron has been exhibited mixt with Alkalis as in the flor. Martiales.

It has been exhibited combind w.th Sulphur but is unactive the Sulphur rendering it mild & inefficacious.

Lect 29.th May 5.th 1772

Lead, seldom used as an astring.t generally as a Sedative, can seldom be used, to stop internal encreas'd Secretions from its dispositn to fetch on Paralytic Weakness of the Intestines.

Tin has been seldom used internally & then not as an astring.t. has been used externally as such, never used in its metallic form, found in the Earth calcined Vij. Lapis Calaminaris as found in the Earth exceedingly hard, must be reduced to a fine powder by exposure to a red heat for some time, & then powder it. It has been internally employd as an Emetic, its use has been much in use externally for Ulcers as an Astr.t

When Zinc is exposed to a red heat it bursts on the appearance of burning, and emits a very fine white powder in form of fumes, this called flowers of Zinc. Tutty or Cadmia another Calx formed from its combination w.t Copper. all these Calxes are y.e same. y.e Cadmia is procured in y.e Brass Manufactories, is more soluble in water than Vitriol. Lapis Calminaris formed by exposing Pyrites mixt w.t Calamine to y.e Air, the Vit. acid contained in y.e Pyrites unites w.t the Zinc. y.e Salt is seldom found, but have a little Vitriol of the Iron, or Copper mixt. wh.d be dissolved in water, & crystalised then called Gill of Vitriol.

Preparat.s of Zinc have an astringency that renders them very useful, particularly for making the Skin grow upon Excoriat.s & Ulcers.

Astring.t Juice contained in a variety of Vegetables, and it seems to be nearly the same in what we endeavor find it.

Agrimony &c have been very properly used in fomentations of Eyes, Inflamat.s, act here as Sedatives.

Roses have been used for the Eyes not very powerfull, their flavour shd recommend them.

Radix Tormentillae has been used as an astring. in Dysenteries.

Rhubarb has a degree of Astringency, but small, when compared w.th its Purgative Qy. the Purgative power may be extracted by Infusion in Water, & the astringency left.

The Acids of all red fruit contain more, or less, of an astringent Juice.

The Cortex Quercus contains the Astringency of the tree, upon w.ch it grows

Uva Ursi has been lately employd, in Cases of the Stone in the Bladder, inefficacious.

Cerae Japonica, & Sanguis Draconis two Resinous Bodies, mixt w.th an astringent Juice of a red Colour, obtained from Trees unknown operate quickly, & universally, principally usefull in Hemorages, may be properly combined w.th Alcohol in this preparation, & render its Effects more lasting, may be used in substance advantageously.

Lect. 60th. May 6th. 1772.

Narcotics act also as Astringents,

Acids act both as Astringents & Sedatives.

The action of Relaxants is not so obvious to the Senses, as that of Astringents, hence some have thought y. the Effects produced by them were produced in some manner diff.

for Inflamat. of the Intestines when the Rectum is contracted so y. no Stools can be procured, nor Glysters injected by the assist. of the Syringe, or warm Bath we can remove these Contractions so y. Injection can be easily thrown in.

When the Urethra is contracted so that a suppression of Urine is produced, & the Catheter cannot be introduced by fomentg the parts affected we take off these Strictures. hence we see that certain Substances properly come under this Class.

Lect. 50. 4th May 1772

The Terra Japonica & Sang: Draconis are sometimes used in Dysenteries, the Bark of y. wild ash employs rather to take off the irritability of the System.

The Cortex Granatorum does not act so quickly, but is more permanent in its action.

Oak Bark contains a pretty powerfull astringt. Juice, is employd advantageously in fomentations of weak & relaxd Ligamts.

The Semiruba has a diffrt. kind of astringency from most others, seems to act solely on the part to wh. it is applyd, wanting that astringt. Quality, chiefly used in Dysenteries & Fluxes where the System is greatly relaxed. —

The Logwood is pretty powerfully Astringt. employd mostly in Dysenteric Cases its astringency simulates that of the other Vegetable Astringents, acts universally & not like the Semiruba

The most powerfull Vegt: Astringent is the Juice of the Oak collected by certain insects as the Galls. — are employd advantageously in Gleets, Fluor albus, & Weakness of every kind, may be externally used in relaxations of the Ligaments &c cannot be employd in Substance, may be extracted by Spts or Water wh. be used in Decoctions, or Infusions. —

Lect: 6th May 7th 1772 5

Relaxants are Medicines that diminish Contractions of the moving parts. —

As Astringents do not increase, so Relaxants do not encrease the Diameter of all y. Blood Vessels. their action is not equal, but more determined to y. small, than the great Vessels.

Relaxants by encreasing the Diameter of the small Vessels, y. external particularly and encreasing the quantity of Blood in them, have been supposed to act as Stimulants.

By encreasing the Secretions they have been considered as Attenuants.

By diminishing Inflamat:. they have been considered as Sedatives.

Relaxants are powerfull Remedies in Fevers, more so than any other Class in counteracting & carrying off Fever.

Fever is always attended w:, and perhaps primarily occasioned by, contractions of the small Vessels, as these Med: counteract this Disposit:. they become very efficacious in curing this Disease. in other kinds of fever they are most useful in y. beginning; may be hurtful during the progress of fever when the patient is become very low & weak.

The Addition of Stimulants & Opiates very much assists their Operation in fevers

Relaxants act very powerfully in carrying off the first Symptoms of fever upon its Attack, & so preventing its further Encreased.

Relaxants cannot be applyd w.th propriety where there is a great degree of Inflamm.n until it be taken off, by Evacuations, etc. y. heat occasiond by their Operat.n encreases the Inflammation.

At the End of Fevers when Symptoms of Weakness come on to a dangerous degree, they, by encreasing y. Secret.n encrease the Weakness, we ought not use them then unless the Weakness be encreasing w.out any Diminution of the Fever.

If Relaxants are of use they generally produce their good Effects in 48 hours, if they have no good Effects in that time they should be discontinued. The First Good sh.d generally be given in quantity to produce Emetics.

In general Inflamm.n by relaxing the Vessels they take off, in some measure their Pressure upon the Blood and so are of use.

Relaxants are also of very considerable use in Intermittent fevers they tending to procure a perfect intermission, & to remove the febrile Symptoms that often remain after the Suppression of the Paroxysm, also to prevent y. attack of y. cold fitt, are assisted by Stimul.ts & Opiates.

Relaxants applyd internally, are more powerfull in carrying off internal, than external Inflammations, as they throw the Blood upon the external parts. & this (in spite whether y. Inflammation be of the Phlegmonous kind, or of some of the internal Mucous Membranes, the presence of general Inflammation however forbids their use in this, as well as in all other Cases, have been considerd as particularly usefull in Inflammations of the Throat,

Relaxants are of very great use in all encreased glandular Secretions, particularly of internal as they, by throwing the Circulation principally upon the Skin and external parts cause less Blood to be conveyd to the glands, & greatly encrease y. cutaneous secretion

In Rheumatisms are attended w.th general Inflammation they tend immediatly to carry off the Contraction that takes place in y. part affected w.th Disease. but if general Inflammation be present they should not be employd until it be got rid of

They are also of use in carrying off Spasmodic Contractions when they take place.

Relaxants are of use in Rheumatism but if the general Inflamat. be very great their operation is attended w. danger.

In Spasmodic affections of the Urinary Urethra, Gall Bladder and our Intestinal Canal. they are of great use when extern-ally applyd, and also when thrown into the Rectum, & Colon.

In Muscular Contractions they are not so efficacious, but have been used sometimes even in these w. success

In Cutaneous Eruptions depending upon dryness of the Skin, they may often be used w. success, so as to Cure the Disease.

Lect. 53. May 9th 1772

Action of particular Relaxants

Neutral Salts

I

They have in general some degree of relaxant power, some more apt to act upon the Stomach, whilst others pass into the Intestines, & purge, Nitre, Digestive Salt of Sylvius, Sal Ammiac & Vitriol: Farther act more particularly upon the Stomach, these have sun more and than the others as Relaxants.

No class of Medicines has been more universally used than these Salts, they were unknown to the Ancients: for on their ignorance in Chemistry, and have got various names from the Inventor or place where they are prepared.

Surprising! of Medicines of so little Efficacy could be so much commended. There being hardly one case in which N. S. can be of any use, & they in no case act as powerfull Remedies, notwithstanding the general use of these Medicines in the present Practice. they are combines of fixed & volatile alkali & therefore of powers not sufficiently powerfull to produce any bad effects.

Dr. Hodgson attributes the use of N. S. to their disagreable taste, from which the Patient supposes they must be efficacious.

Some very powerfull Applications require a considerable time to operate before they produce any sensible Effects. hence in inflamatory Disorders after Bleeding the Patient largely, & exhibiting Nitre afterwards, the Cure is attributed to the Nitre, which in reality belongs to the Operation of Bleeding.

Dr. F. wishes to make strong impressions on his Pupils of the inefficacy of these Medicines, in order that they may not be depended upon, where active Medicines may be used with advantage.

Neutral Salts tho' not powerfull Relax.ts
Sedatives, nor Alterants are yet very usefull
Purgatives, stimulating the glands of the
Intestines chiefly & producing an increased
secretion from these parts. —

Ipecacuanha

In the Root of an America Plant brought
over dry, and may be preserved 20, for a very
considerable length of time. Its Virtues depend upon
a Gum soluble in water, or in the Spirit & water in either however
(in most cases) used in Substance.
Has been principally used as an Emetic,
has a specific Stimulus to the Stomach,
so much that, if its Juice be injected into
the Blood Vessels, or absorbed, it acts upon
the Stomach, & proves emetic, hence it
is more certain in its Operat.n as an
Emetic; than any other. —

If given in smaller doses than to prove
emetic it acts powerfully as a Relaxant,
most Stomachs will bear gr. j some gr. ij but
few, thirs cannot bear more than gr. ß without
producing Sickness. has been exhibited
in Dysenteric Purgings, often along wt.
Opium in wh. case it becomes powerfully
sudorific, & the Stomach will bear a larger port.
of both Med: when combined, than when given alone
It has been successfully used in chronic Rheumatism & Bronchitis. —

+ Scilla y. Root of a plant, is of y. natural Class called Lilliacia, acts only as a partial Stimulus

Besides their Power of encreasing the glandular Secretions they have also a Relaxant Power. this root being bulbous, & being cannot be well used in Infusion unless dried, in wch case it loses considerable of its Efficacy. ought to cut in thin transverse slices & slowly dried. & then given in small Doses.

+ Aconitum { has been considered as poisonous but lately employed in Med. its Virtues depend upon a Juice not volatile & soluble in Water it may be used in form of an Extract.

Has been considered as a Poison, but introduced by Dr. Stork. seems to act pretty powerfully as a Relaxant the Dose of it extremely small, we ordr. 1 gr in 48 part of a grain w. may be gradually encreased till it produces Sickness, has sometimes been used with success in obstinate Rheumatism

Lecture 61th May 11th 1772

Senecka y. Root of an American plant wi from being knotted was supposed to resemble y. tail of a Rattle-Snake, & to be useful in the Bite of that animal, the Juice upon w. its Virtues depend is soluble in Water & has thereby commonly been used in Decoction, very disagreeable taste, occasions a heat in y. throat. has been sometimes used in Diseases of y. Lungs, in Rheumatisms, & cutaneous Eruptions with Success.

Cold Water was employed in fevers as a Relaxant by the Ancients, & sometimes d. considerable effect, but has not been used of late, it seems to be of no great consequence whether cold, or hot water be drunk in acute Diseases. when cold water has acted as a Relaxant it has been used in very large Doses two, or three Quarts of this fluid having been thrown into y. Stomach acts sometimes both as a Purgative, & Emetic, & sometimes as a Relaxant, & so has carried off the fever according to y. Accounts.

Antimony

No Medicine has been subjected to more Operations than this Metal & yet the Preparations of it in use are very few Regulus of Antimony is seldom combined w. Sulphur, & sometimes also d. Regulus of Arsenic such however are very rare & easily discoverable by the redness of their colour.

Regulus of Antimony is very easy of fusion & may therefore be separated by exposure to a small heat from y. Stony impurities d. w. it is mixt. the Metal

28) when melted is thrown into conical Mould is inverted & y. 2d. of the Sulphur being greater than that unites chemically w. the Regulus the latter being heavier than the former subsides hence the Apex of the Cone is a purer Regulus containing less Sulphur than the Base of the Cake does.

If we apply about 3, or 4 times y. 2d. of fixt alkali it unites w. y. Sulphur forming a Hepar Sulphuris w. dissolves the Regulus of y. Metal from w. it may be precipitated. or Iron may be used it attracting the Sulphur more powerfully than y. Antimony & no part of it mixing w. y. purer Regulus. Filings of Iron tinder. to be used w. Antimony & y. whole expired to give or a part of y. Sulphur may be destroyed by deflagration w. Nitre if we add equal parts of Nitre & any fixt alkali

Another method of procuring y. Regulus for med. purposes is by uniting y. fixt Alkali was to make a Hepar &

Regulus of Antimony has been exhibited as a vomitive in form of a Bolus called y. perpet. Pill but cold can have given in powder in a regulinis form except Sulphur auratum Antim: & Kermes Mineral. Two of its Calces have been used, by exposure to y. air & heat only w. thus forms a white powder then purified is grinded by Marble or Porphyry, or Stones, or by deflagration w. Nitre and 3 parts of Antimony to 1 of Antimony in a red hot Crucible

It has been and ~~[illegible]~~ vitrified. It has been combined w. Vit. & Nit: acid, but is uncertain, being subsisted by water. It has been combined

Lect: 66 · May 12 · 1772 ·

St. Mars. acid Vol. Butter of Antimony & Mercurius Sol. has been combined w. Tartar ~~[illegible]~~ Ta Cyr: Emetic & mercurius is done.

The preparations of Antimony may be considered under 2 heads

1, Such Salts as are soluble in the watery Juices of the Stomach these are always certain in their operation therefore preferable to the

2, Those whose action depend upon their solution in certain Salts in the Stomach w. may vary according to the Quantity of these Salts & are therefore uncertain in their Operation.

There are none of the Preparations of Antimony so perfect as we could wish. all Metallic Preparations soluble in watery fluids stimulate the Stomach strongly & are more apt to act as simple Stimulants than to produce their peculiar Effects Antimonials are also subject to this inconvenience.

Antimonials are by much the most powerfull Relaxants, & may properly be used in Fevers, & every other case where this Effect of Medicines is proper, & usefull & of Relaxants above we can most depend.

Crocus Antimony & Ye Cellas are mostly inactive, & Crocus Metallorum & Effect of Antimony are very uncertain in their Effects. Kermes, Tartar, & Sulphur of Antimony a combination of Regulus & Sulphur Sulphurous are of very frequent & salts & are active.

Relaxants are very usefull in internal Inflammations, & Rheumatism, such cases excepted where there is a great degree of general Inflammation, in which cases the genl Inflammatn must be first got rid of, before we dare to use them.

In Inflam: of the Mucous Membrane as Coliaca, Dysenteria, Diarrhoea, & Gonorrhoea they may be successfully employed, also Phthisis.

In encreased secretions, & cutaneous eruptions, they are used with success.

In internal Haemorrhages they have often been exhibited successfully. They have also been used in increased secretion from the urinary passages.

Strengthners: such Remedies as give a greater power of contracting, viz: the fibres of a greater degree of tone differ from Stimulants & Cordials in their effects, inasmuch as they do not act by calling this power into action, but by acting on the

The strength, & weakness of the System does not consist in the action, but in the capacity, or incapacity to exert a great degree of power. although the power of the Body be finite, yet we might suppose the exertion of this power to be definite in same manner as a Magnet will lift, & suspend a certain weight of iron for any length of time. This is not the case, for the Body after exerting its power for a certain length of time loses the capacity of continuing such exertion but has it restored again, by rest of the parts.

We may say then that there is a flow of living power into the Body which may be accumulated so as to act more strongly, or by the exertion of this Power, it may be wasted, & exhausted. Tho' we don't suppose there is any fluid running out, or into y. Body yet we may compare the accumulation of the living power to a Dam of water gradually collected from a small Rivulet which although incapable of turning a Mill of itself yet when gathered, and collected in a Body is capable for a length of time of producing this effect but the Water w: was collected being in time exhausted the Mill can be no longer driven round till a quantity is collected.

The Body may be strengthen'd 2 ways

1 by preventing the waste of the living Power (to carry on the similie) as by stopping up the Dam to prevent the water running out, or

2d by encreasing the flow of this living Power into the Body viz: by encreasing the stream of water into the Dam.

The flow of living power may be principally exerted in one part, or another thus a Dancing Masters Legs grow strong whilst the Arms of a Blacksmith grow strong also by Exercise of these particular parts.

Strengthening Remedies then are such as prevent the exertion of the living Power, or such as increase the flow of it into the general System, they differ then in their action from Stimulants &c.

Lect: 56th - May 13th 1772.

The first action of the living Power is to contract the Blood Vessels so as to adapt them to their contents. if there be only a small quantity of Blood in the Vessels the greater Exertion of the living Power is required to produce this Effect. hence nourishing Foods, by filling the Vessels w. Blood become Strengthening Remedies. It is not suffice though that food be thrown into the Stomach but its quantity & quality must be adapted to the Powers of Digestion & other Circumstances.—

Food easy of Digestion does not afford so much nourishment to a strong, as to a weak Stomach it being too soon thrown out of the former.

When the Blood Vessels have no great Disposition to contract, but are forced to contract powerfully from the small quantity of Blood they contain in them ~~this~~ cases the Stomach digests well & the appetite is keen. on the contrary when the Vessels have a very great Disposition to contract not from the small quantity of Blood contained in them. as in the case in hectic fever in this case the Stomach loses its powers & the appetite is lost. Nature then seems to adapt the appetite, & digestive powers to the particular circumstances of y. patients health & food is loathed and rejected in cases when it wd be unnecessary & hurtfull.

Second Method of strengthening the System is by applying cold to the Body or living in a cold Atmosphere

In a cold climate the external Vessels are contracted, & the Blood left in the large Vessels about the Sweetbrea upon wh circumstance the strength of the Body seems in a great measure to depend for when the circulation is principally carried on in the external & not internal parts of y. Body y. strength is diminished as in the case in warm climates. hence change from a warm to a colder climate

3dly powerfully strengthens the System.
we shd. only observe that the Transition shd. not be too sudden, lest the Blood by being suddenly forced into the internal larger Vessels it stimulates the Body too powerfully & produces Disease. The Return of Blood
pirit consists is always nearly the same & variety of Seasons
the Body being subject to is extremely little.
For Temperate Climates the Habit
is greatly debilitated during the Summer
Season, whilst it is strengthened by the
Winter hence in the Spring the Diseases
are mostly of the inflammatory kind,
whilst the Autumnal are attended with
weakness & Depression of Strength.
Cold suddenly applyd. as in the cold
Bath has a very diff. Effect in
this Case the Blood is suddenly thrown
from the external, to the internal
Blood Vessels. the Cold being removed
the contract. of the external Vessels
does not continue wh. but the large
vessels acting powerfully, force the Blood
upon the External Surface of the Body
hence that glow & heat of suddenly take
place after using the cold Bath. This sud-
den distribution of the Blood through the small
Vessels of the external parts is very powerfull in
removing Obstructions &c of the External Capillaries.

+ Living in a pure Atmosphere is another powerful means of strengthening the System. This seems to be effected by the lividness power being prevented from being exhausted. If the Trachea of an Animal be tied up he becomes gradually weak untill he dies; if only a small quantity of air be allowed him he gradually becomes weaker & weaker. The very same takes place in the air of large Towns a sense of oppressn & weight is felt apart of Crowdies, which is immediately removed by the country air. —

Running water takes up fixible air. & thus putrid effluvia hence an Air situated near running water is pure, & wholesome whilst the vicinity situatn of stagnating water is the contrary, from the putrefaction of the water &c. —

Exposure to Continental, as the E. & N. E. winds renders the Situation unhealthy in some Measure, although the air be denser in these Winds than any others yet if these be the smallest Disposition to Disease they are the means of producing them. —

+ Astringents given in small Quantities strengthen, in large quantities they weaken the System, they act most powerfully upon small, than strong Persons & differ much from Strengthners

Lect. 57th May 12th 1772

2d Class of Genera of Disease of Living Power is Vigor

Exercise having a tendency to draw the action of the living power from the Vessels to ye Muscles has a very good Effect in strengthening the Habit in order to render Exercise efficacious in strengthening the System it should be moderate according to ye strength of ye patient, the Exercise should be such as employs all the Muscles of the Body. Riding on Horse Back, in a Carriage, Rowing, Fencing &c are of great use, riding in a Carriage upon rough Roads is disagreeable to the Mind producing sensations of Fear is therefore hurtful.

Exercise should be agreable and there should always if possible be some object in View besides the Health, the great use of Mineral Waters depends more upon the Exercise, and amusements

engaged at those bubbling places, than any particular Quality the Waters possess. The Exercise should always be in a pure Air, if the Air be impure the Exercise encreases the Weakness in place of strengthening hence Exercise in close Rooms do Mischief.

Certain Remedies as bitter Vegetables Substances tend to encrease the flow of living power into the Body. Vegetable Bitters differ considerably however in their properties the pure Bitter is very probably the same in all of them.

The Syngenesia of Linnaeus or those Plants w. double flowers as the Lettuce, Dandelion, Endive &c contain a white Bitter Juice which flows out like Milk and resembles Opium in its properties, others as the Absinthium Mas, & fem. Tanacetum &c have a stimulating Essential Oil mixt w. their bitter, whilst the Chamomile contains a purgative as well as a bitter Juice.

The same bitter Juice is contained in the Cell of the Lemon, Orange &c in the Root of the Gentian & Tops of the lesser Centaury.

This Juice is purest in the Bark of a certain American Plant called Cinchona Bark, & by many other nearest Preparations of Iron, & Copper are supposed of nearly the same Effects they have all a Power of diminishing the Irritability of the System, as well as of strengthening it. the weaker the habit, the more irritable it is, and vice versa, but these Medicines have in many instances a greater power of diminishing the Irritability of the habit than of strengthening it.

+ Cinquina, China, China, Cortex Jesuiticus, Cortex Peruvianus.

The Medical Juice of the Bark is contained in the Cells or spongy part broke & spread by Sun to concrete Juice glistens. the Bark of Lovall branches contain more of the Medl. Juice, than those of the Trunk & larger branches. Yet very subject to adulteration, and therefore ought be purchased in Powder

Barks & Bitters, besides their strengthening power, have a power also of diminishing the irritability of the System. —

Bitters approach the Bark nearer in their strengthening, than in their power of diminishing the irritability of the habit. they may be properly substituted then to it in the first case.

When the intestines are weakened, & in consequence there are want of appetite, indigestion, costiveness from want of the secretion, nature, or purging from too great irritability, flatulency of the intestines &c. in all these cases the Bark may be exhibited w. the greatest success. Bitters in these cases are also of great use.

Bark should be employd in solution in cases where the intestines are so very irritable, that it produces purging when exhibited in substance. Extract gentian gent. aport. & dimin. as stronger than Bark in substance. Alcohol & fixed & more powerfully than volatile alkalis. Bark sometimes & in cases the intestines producing purging in these cases we may exhibit it w. a very small quantity of Opium.

40 Bark sometimes in great d. & Stomach in D. Cases y. spices may be joined to it such as Cinnamon, Cloves, &c.

By aim in stating the Irritability of the Intestines it sometimes produces Costiveness. this, we should carefully prevent from taking place, by the Exhibition of Rhubarb, or Aloes so as to procure an Evacuation every day. It is better to exhibit the Purgative alone, than w. the Bark. due we will give it either in too large, or too small Doses. If it is exhibited w. every dose of Bark in D. sup. it will purge too much. If or y. cont. fail to procure Evacuat. it will produce no Effect. if to not exhibited in the d. it will produce no Effect.

Bark has been frequently employed in fevers, sometimes to diminish the Irritability, & sometimes to strengthen. It may be employed in Cases where people are exposed to Circumstances, in which there is a probability of Disease being produced. This is effected, by rendering the Body insensible to the Causes of Disease.

Bark by long continued use, leaves its Effect upon the Body, rendering it in time insensible to its own, as well as to the action of other Stimuli. Bark is of great use in Cases that arise from the Weakness, & Irritability of the System

But it can only be used then, for a certain length of time wt. advantage, it should be exhibited only on certain occasions. Wt. such a Circumstances as the Body is most subject to the Causes of Disease. as a Preventative

Jij - Jiij in the 24 hours are sufficient. the larger the Doses exhibited, the sooner it loses its Efficacy; & vice versa.

If a Man has been exposed to the Cause of Disease and Languor Nausea, Debility &c have taken place. it is then too late to exhibit the Bark, and we must use Relaxants in its place.

Bark was first brought into reputation by its use in <u>intermitting Fevers</u> it was for a time out of practice, & was again introduced & continues to be used.

Great Authors differ very much, respecting the Propriety, & particular time, & Mode of exhibiting it. It is generally agreed that the Intermission of the Fever is the most proper time for using it.

Some have thought it might properly be exhibited during the whole time of the intermission, others only in the first part, & others again in the latter part of the intermission viz.t in a very large Dose, before the attack of the Cold fit.

There has been as much disputes whether it might be exhibited in intermissions of fevers if were not perfect, some asserting that it might be exhibited in imperfect as well as perfect intermissions.

The Mode of its operating upon the Body so as to produce its effects has been much disputed, some have supposed it acted as a Stimulus, others that it has some specific Quality of destroying Fever independent of its other action upon the Body. We suppose, that as it prevents the Causes of Disease from (originally) taking place by diminishing the irritability of the Body, so we suppose that it acts in the same manner in preventing the return of the Cold fit. i.e. by rendering the Body for the time unsusceptible to the causes of the fever.

Bark should not be exhibited but in perfect intermissions, as it may sometimes render an intermitt.t a cont.t fever, if improperly used.

Lect: 59th. May 16th 1772

Bark has no tendency to carry off a fever w. is present, if exhibited in a continual fever it never will cure it, but in most fevers will increase, in place of diminishing the symptoms. Bark has the same good effects upon almost all intermitting Feverers, if properly exhibited in the intervals. (Remitting fevers)

The Cause of a Disease may be prevented from taking place in 2 ways. Viz. either by avoiding exposure to the Cause producing the Disease, or by counteracting that cause when it has taken place (viz.) by producing an effect that is opposite to it. —

That Bark produces its effects by diminishing the irritability of the Body appears from its similar effects in other Diseases, it prevents the salts of the Urine from stimulating the excoriated passages in Venereal Disease, not by destroying the Venereal Matter, but by diminishing the irritability, & rendering the parts insensible to the cause. —

The cases where the Bark ought to be employed are those cases in which the Disease is perfectly absent, or some symptoms of the Paroxysm continue through the Intermission from too great irritability of the habit and weakness by the long continuance of the Disease. —

If exhibited during the Paroxysm, or where the Intermission is imperfect it does this chief & often converts the Intermittent into a continual Fever.

If the Disease has continued a length of time & some symptoms of the Disease continue from weakness &c in these cases the Bark may be exhibited in the most perfect Intermission it can be found. —

As the Bark is employed to diminish the irritability of the habit it should be given in large Quantity & in Substance if possible. ℥i or ℥ss should be exhibited during the Intermission, & we should not stop its use, as soon as we prevent a Paroxysm, but should continue the use a very considerable time afterwards if it can be too soon left off and the Disease

reproduced the Bark loses in a great measure its Efficacy, & will never after cure the Disease w. such a degree of certainty as at first.

Bark frequently produces a tightness about the Thorax, & difficulty of Respiration and also affection of the Brain w. are two Symptoms attended w. more danger than any other in Fevers. if in continued Fevers there any of these 2 Symptoms take place let the Patient be ever so weak, & exhausted, by the Disease, we cannot employ the Bark to encrease strength. but if the Symptoms above mentioned be absent, the Patient moist, & the pulse quick, we may exhibit the Bark w. advantage gjss. or gij in 24 hours is sufficient in these cases.

Bark is of great use to prevent the relapses of Fevers, after a Crisis has taken place. If the Crisis takes place before the 13th or 14th day the Patient is particularly subject to relapses of the Disorder, & we should use the Bark to prevent this Danger.

Lect. 1

If a Crisis takes place about, or before the 7th day of the Disease then the Bark should be administered in Substance, & in as large quantity as ℥j. to prevent the return of an intermitting Fever. else there is very great danger of Relapse.

If a Crisis takes place after the Disease has continued for more than 14 days there is much less danger of Relapse. It holds general in Fevers that the longer the Disease has continued before a Crisis takes place the Patient is less subject to relapse, & vice versa the sooner the Crisis the greater the danger.

Lect. 60th May 18th 1772.

When Intermitting Fevers run through their natural Course they weaken the Patient so much as at times to prove fatal, to prevent this great weakness from taking place Bark, & the Bitters have been exhibited a small ℈. of Bark, ʒj. or ʒiij in 24 hours is sufficient Chamomile &c have been more frequently used it is better however to stop the Course of the Disease by large quantity of the Bark.

Bark in general, increases Phlegmonous, & diminishes Erysipelatous Inflamation these two Diseases are often combined, if ye Pulse be hard, full, and strong the Bark should not be exhibited, if the pulse be quick, weak &c, and symptoms of Irritability take place in such Cases Bark may be exhibited to advantage. {Generous suffocation & formation of good blood, and prevents putrefaction in

In particular Spasmodic affections as of the Intestines &c in such Cases they often depend upon weakness, hence the Irregularity of the Muscular Motions the Bark by strengthening the general habit restores the equality of ye Muscular Powers, & so cures the Disease.

The Matter secreted by Ulcers is not Pus, but a thin, watry fluid at first, and is gradually converted into Pus, that this is ye Case appears from observing any small Abscess as a Bubble of the Small, or Chicken Pox, the fluid it contains is at first clear, and transparent but is gradually converted into thick, yellow Pus.

Erysipelatous Inflamation of an abscess, or Ulcer is the great, or principal Cause of the absorption of Pus into the System, hence the great use of the Bark in converting the Erysipelatous, into Phlegmonous Inflamation & thus both disposes the Ulcer to secrete a thicker, & better Pus, and to prevent the Disposition to absorption.

In all Wounds, and Ulcers wherever wait to produce good Pus Bark is the most powerfull Medicine in promoting it.—

If an Ulcer be recent Bark is very powerfull in producing good Suppuration, & granulation, but if the Ulcer be of a long standing the Case is very different. in the first Case the System may be considered as affected in general, in the latter Case the Disease is topical & the System not affected. In the latter Case. Mercury is particularly usefull.

Bark much preferable to all the other Bitter, & Strengthening Medicines in the above Intentions.—

Inflammations of the Mucous Membranes are often attended w. increased secretions from the Mucous glands. Bark stops this secretion by taking off from the irritability of these glands.

Increased secretions of the intestines are better treated by Opiates, & other astringents than the Bark. unless y. Disease has been long continued

In Gangrene, & Mortification Bark is y. most powerfull Remedy yet discovered. A dead part is separated from the living part of the Body by a suppuration which takes place between them, & Bark from its disposition to destroy Inflammation, & convert it into a phlegmonous Inflammation powerfully promotes the suppuration.

The effect of the gangrened part upon the surrounding parts is such as not only to prevent this suppuration from taking place, but also to change the living parts into the same nature w. itself.

Bark by its power of diminishing the irritability of the parts prevents the sound parts from being acted upon by the ~~[illegible]~~ parts. —

Lect. 61st May 8th 72

In Rheumatism Bark does not at all tend to carry off the Disease, but as in other Disorders it prevents the return of it.

It often happens in acute Rheumatism after the Disease has continued for some time the Pain goes off entirely in the day time, but returns at the natural evening Exacerbation, & continues through the Night. disappearing in the Morning with sweating the continuance of which Disease greatly weakens & wastes the Patient. —

Bark in this Case may be exhibited during the day in 2ss from ℥ss. to ℥j & the greatest success is in generally carrying off the Disease. —

Rheumatism often returns at irregular periods like a Spasmodic Disease, or upon the least exposure to Cold, in these Cases the Bark

When great Weakness takes place suddenly from any cause the Strength may be restored in a short time by y. exhibition of the Bark in considerable quantities. If the Weakness has been a long time in being produced or cannot expect to get rid of it so soon. Bitters in these cases are of use but y. Bark is preferable in most cases excepting where the habit is very lax in wch case a repeat. of Iron have the preference.

In these cases it should be exhibited in solution & its use intermitted after 2. or 3. weeks for some time, & returned to again, the strengthening Medicines should be varied as one Medicine will be efficacious when another by use has lost its effects. This advantage & best of use might recommend them.

In Hysteric cases there is a great degree of irritability in the System. Bark may be properly exhibited, by taking off the irritability of y. habit it often cures the Disease. In Chlorosis strengthening Regimen has often been recommended but y. Bark is a strengthening remedy in some cases, it may be questioned whether it is not that should be used. Diuretics have effect strengthening anti-spasmodics Aperients &c

When the Hysteric Disease takes place in Plethoric Habits, Bark cannot be exhibited; untill the Plethora be removed

When it proceeds from Weakness the Bark may be employed from y. beginning to the greatest advantage. most effectual when y. Disease has come on suddenly & violently.

Preparations of Iron unless when Plethora is present are next to Bark in efficacy in this Disease.

In other Spasmodic Diseases this Class of Medicines are of some use. If the Body be lax & irritable they are most efficacious, & especially if Bitters in such cases.

In Palpitation Fits & when the habit is not plethoric, but weak these Medicines may be used advantageously and also used in all Diseases y. return at regular Periods.

Tetanus, & Rigor Sardonicus can scarcely be considered as Spasmodic & are little benefited by Bark unless by mistake of attempt takes place.

In Chorea Sti Vti when it can be received by Medicines the Bark is y. best. they are only efficacious at y. beginning of such Disease.

Bark and other Bitters may be used to carry off y. Gout but they are apt to induce a melancholic Temperament and apoplexy. Colly & have frequently been produced from Bitters & Astringents. Bowel & Strengthners are of excess in weakness of y. Intestines attended with Diarrhoea as they take poison y. Secretory Glands y. Stomach

When y. Disease is regular & the patient strong, Bitters ought not be used. But if the Disease returns irregularly is apt to infest the internal parts and the patient be weak, the Bark, & Bitters may be used to remove it. but they in all these Cases tend to increase the Melancholic Temperament & the case is often attended with bad consequences. Dr. Cullen. Cordier

Lect. 62. May 20th 1772

In such Cases of gout where the Disease has exhausted the patient the Bark may be exhibited in small quantities from ℥ij, to ℥iij in 24 hours are mostly sufficient

When the Menstrua are obstructed from Weakness, Bark, & Bitters may be exhibited advantageously.

Both Spirits of Absinthium and Absinthium contain a stimulating Essential Oil, they cannot be employd. to take off the irritability of the habit, but to strengthen it. Wormwood, Santonicum, and Ratanacetum have been particularly employd to destroy Worms in the Intestines, Bitters poison these Animalcula, and at the same

 time strengthen the Intestines and enable them to digest, and evacuate them.

Carduus Benedictus and Cardina have been employed not only as Strengthners, but as Compositors of the Stomach in violent Reaching. Infusion of Chamomile has been used w.th the same intention these Medicines when exhibited in large Quantities excite Vomiting.

Chamomile has many of the same properties w.th the Barks, but has more of a purging power.

The Rinds of Oranges, Lemons, Curaçoa Apples &c have an Essential Oil which renders them very agreeable to the Stomach, they have also a degree of Astringency, are often exhibited w.th other Ingredients or accept. of their agreeable flavour.

The Lesser Centaury, & Gentian are the purest Bitters but they have no power of destroying the perishability of the Aliment agree well w.th the Stomach & strengthen.

Hops are used only to preserve Malt Liquors but they deserve a place in the Pharmacopia.

Chamepitys Marubium, Chamedrea Dictamnus albus, Salvia & several other of the Idomenia contain besides their bitter a stimulating faculty

have been particularly employed in Gout
where we want to strengthen the Stomach
& prevent flatulency. The astringent Juice of
their Bark resembles that of the Bark, Mater-
bium has been particularly employed in the
Jaundice.

Preparations of Iron besides their strengthe-
ning power have a considerable Stimulus,
they are next to the Bark in their power
of diminishing the irritability of the habit,
but their stimulus renders them in many
cases improper their Salts should be used,
or else their Salts in very weak solutions
they stimulate the Stomach less powerfully.

Preparations of Copper can be employed
only to diminish the irritability, not
to strengthen the habit, have been parti-
cularly used to prevent the return of
Spasmodic Diseases, a Calx of Lime
has of late been employed to the same
Intention viz. of Spasmodic Lime.

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Lect. 63d. May 21st. 1772.

Remedies which weaken the System.

Sedatives in as far as they act upon the System in general during the time of their action prevent the flow of the living Power but they leave the parts as strong, or stronger after, than before their action.

We have no Medicine that will permanently diminish the flow of living Power without at the same time diminishing the irritability of the System

The only means we have of weakening the System is by exhausting the living Power. w. we never wish to do permanently, but only w. a view to cure some present Disease which is worse, & when this Effect is produced & y. habit freed of y. Disease it may soon be restored to its usual strength.

If a Patient be affected w. Fevering we bleed, & so weaken the System w. taking off the strong action of the Vessels of y. Fever & cures the Disease. but a small degree of weakness is left produced by the evacuation made, this however is not to be set in comparison w. the danger the Patient was subjected to from the original Disease.

Weakness alone if free from other Disease is generally soon got the better of, therefore we dare not hesitate weakening the System either we are to produce any good Effects from it. but if we weaken the System & any other Disease be present we never can get rid of that weakness till the other Disease be first removed such Cases then require much consideration. In all Cases Sedatives ought to be preferable to weakening Remedies if they act sufficiently powerfull. but for they are not we are obliged in some Cases to weaken it. & the only method we have of producing this Effect is by exhausting it.

The first action of the living Power is making the Blood Vessels contract, so as to adapt themselves to the quantity of fluids they contain, the more and more fully the Vessels then, the more of the living power is spent in their contraction so that there is a smaller quantity of it to expend upon muscular Power & the other Functions of the Body the System is therefore in some degree weakened by the extra quantity of living power applied to the action of the Blood Vessels for life if left as it is the Blood Vessels cannot longer contract upon their contents.

All Evacuations tend to weaken, emptying the Blood Vessels in whatever way but the Effects of Evacuations produced a different way are in some manner different.

When we evacuate by Revulsion, or relaxing any particular glands so as to make there secrete a larger quantity of fluids than usual the uniformity of y. Circulation is lost a particular quantity of it being drawn to y. part, from w.h the Evacuat. is made, it becomes therefore larger in that part. When we make an immediate evacuation from the Blood Vessels it leaves the Circulation uniform as before it was. upon which account this Evacuation is in general preferable to those made from particular glands.

The force that propells the Blood out of a Vessel when opened, is exactly equal to y. power w.h the sides of the Vessels contract. & this may in every case be allowed because the force of the Heart

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This force is very considerable hence the Blood flows out of an artery w^t. very considerable rapidity. If a Vein be opend its ordinary force is not more than 1/6 of the arterial power. hence there must be an additional power vizt. that of ye heart & arteries when the Vein is opt.

If the capillaries are opened the power with which Blood is thrown into them is suffic^t. to make the Blood flow out of them.

The Pressure of ye weight of ye atmosphere pressing upon other parts of the Body forces the Blood out of ye capillaries where cupping Glasses are applyd.

By ye general circulation of ye fluids the Blood is completly mixt. hence the very same Blood is taken away from particular part of the Body & from whatever order of Vessels the Evacuation is made.

The effects of quick & slow Evacuation by Bleeding are very different. because 2, 3, or 4 times the usual quantity of Blood may sometimes be contained in the Capillary Vessels as is plain from examining the state of the Cornea when natural & when inflamed

When you take away a Qt. of Blood suddenly you donot give time to the Capillaries to contract. but if the same quantity of Blood be taken away slowly the Capillaries have time to contract. in the first case then the great Vessels are principally evacuated.

If Blood be taken away suddenly the same quantity weakens much more than when taken away slowly.

In most Cases it has been recommended to make a large opening & from a large Vein & this is generally the best practice altho the reason was not well understood.

If we wish to affect any particular part of the Body we ought to evacuate from a particular part

Bleeding from a particular part seems to evacuate such part more than we should expect from any principles yet explained.

The weakness communicated to y. parts in y. neighbourhood of them immediately evacuated does not depend upon any Nerves, or Vascular communication between y. parts. for parts supplied by y. same Trunks of Nerves, or Vessels (if at a distance) are not affected, but y. neighbouring parts to those y. Evacu. is made on the not supplied by y. same Nerves, or Blood Vessels.

Arteriotomy dangerous, & troublesome from y. Difficulty of stopping the Bleeding, hence never used in general, but sometimes in topical Bleedings has advantages as it cuts off the conveyance of Blood to the part affected & v. Inflammation.

Openings from large Veins, & those of the Arm are principally practised upon when we want to make topical Bleeding, if there be any large Vein running on y. part it may be opened, if not Cupping or Leeches may be applyd to y. part.

Scarification is sometimes of particular use on account of the Hemorrhages occasioned by the Wounds as well as the Evacuation made.

Leeches sometimes tho' rarely contain a poisonous juice w. occasions an inflammation of the Erysipelatous kind, but generally goes off & is inoffensive.

Lect. 64th May 22d 1772

The Quantity of Blood yt may be taken out of ye Body without destroying it has been much disputed by Great Writers.

Dr Stahls followers amongst ye Moderns, & all ye Ancient Physicians bled but in small Quantity: others, & in particular Boerhaave's followers bled frequently, in large Quantities, & in almost every Disease.

If we want to produce any Effects upon ye general System, or red Corpuscles of Blood is the Least; in an Adult that can be taken away, in very young Children we more commonly employ Leeches from ye difficulty of finding a Vein for ye Lancet. 2ly in very young Children will produce a considerable Effect. in Adults pretty emaciated or by the Fever 3ly will produce a considerable Effect but it is but rarely that so small a qty is of any service in Adults.

 A Strong Man will bear to loose 16, or 20 Ounces of Blood & it is better to take this away at once. some have thought y. a Patient cannot bear to loose blood more than 3. or 4 times but Dr Fordyce instances one case where 112 Ounces were taken away in 3 days time w.th Advantage the sudden ease y. Evacuat. has brought, and produces a greater temporary weakness.—

In Bleeding regard ought to be had to the age of the Patient & y. disposition of his Vessels to contract. & to y. Quantity of Blood they contain, the Evacuat.n may be made till y. Patient faints in many Cases, tho' being no instances shew y. Patient has died from loosing too Quantity.

In Inflamat.n there is an increased act.n of y. arteries in y. part inflamed which propelling the fluids w.th more force into y. Capillaries, distend them beyond their Tone & this distension of ain dimolates y. arteries, & so keeps up y. Inflamation.—

In some Inflamations it is the Distension of the small Vessels partly that keeps up y. action of the arteries, this is the Case in Phlegmonous Inflamation.

Another Species of Inflamation is, when the small Vessels are so very irritable that a moderate distension of the Vessels will dimolate them, and keep up the action of the arteries this we call Erysipelatous Inflamation.—

Inflamat: sometimes kept up by the stimulus applyd to irritable surfaces as to Membranes of the internal parts that are subject to Inflamat: from the stimulus of the Salts contained in the fluids secreted upon them, or the surfaces of Ulcers that are inflamed from the same Cause.

When the habit is weak there is a disposition in some particular part to have its vessels act more strongly than natural which Disposition Bleeding increases by further weakening y. System & allegmonous Inflamat: Frequency & smallness of y. pulse are most certain symptoms of y. Hardness of y. Pulse is

Bleeding is usefull in Allegmonous Inflamat: only. in Erysipelas it increases the Inflamat: by the heart, in Inflamat: from y. Mucous Membrane being irritated by secretions it also tends to increase the tendency of such Membrane to be affected by the stimulus, of the Inflamat: being of y. allegmonous & Erysipelatous kind y. Bleeding is and it should not be used when y. symptoms of Irritation depending upon the Erysipelatous power fall means of remov.

Bleeding a very powerful means of remov. Allegmonous Inflamat: - to be remembered y. its good effects may be instantaneous, but this seldom happens. & we by bleeding only make the Inflamat: begin to give way, & it, of itself continues to go off.

In Allegmonous Inflamat: the more the general system is affected, the more certain in the effects of this operat: & the greater, & more sud. y. weakness of y. system is produced the more it benefits.

(ble.) If the System be but little affected Evacuat: from the part is more usefull than general ~~[illegible]~~ Evacuat: as we thus, more immediately evacuate the part affected.

Bleeding from the part affected was much practised by the Ancients, until the Circulat: of the Blood was discovered when it fell into disrepute, but it in many Cases is of the greatest use when gen: Evacuat: is of no service we could hardly expect this a Priori but Experience confirms the propriety of y: practice. —

In general Inflamat: the sooner y: Evacuat: is made, & in the larger Quantity the more effectual it is in taking off the encreased action of the Vessels this depends partly upon the effects of habit. when the Vessels have been used to act strongly for any considerable time they acquire a disposition of continuing this encreased action, even after the Cause that first produced it is removed The sooner then we empty y: Vessels, the less danger there is of their acquiring this habit.

Our Anxiety in carrying off Inflammation by bleeding should be more, or less according to the consequence that may arise, from suppurat: of the part affected. y: natural Cure should also be considered. if y: part affected has a natural Cure w: is going on, we shl: be less anxious about Bleeding. —

Lect. 65th May 23. 1772.

When the heart, & arteries are acting strongly when the Pulse is hard, strong, & frequent, Bleeding is the most effectual way of carrying off this Inflammatn & is equally so from whatever cause it may arise, provided it be the only Disease. in Fevers & in Rheumatism an increased action of the heart, & Arteries tend to carry off the Disease, but in fever it is not the only Disease, & we ought to be cautious of diminishing the quantity of Blood, as we may take away y. strength w. is necessary to carry him through the Disease, in Rheumatism y. natural Pulse is weaker than the Disease it should always be prevented there from taking place by diminishing the Arterial action by Bleeding.

In the small Pox we ought to be cautious of Bleeding during Maturation (least the Pustules sink) unless the Symptoms of Inflammatn were extremely high, so as greatly to endanger the Patients Life this Evacuation should not be made.

In Chronic general Inflammatn where the Arteries only act strongly, without strong action of the heart, & the Pulse is hard, small, & contracted, & not full, and strong; in this Case Bleeding is not right so efficacious, & if we do Bleed it should be more in small quantities, & often repeated. Injudicious Evacuatn tending to diminish y. genl strength but not y. increased arterial action.

One Case in which copious Bleeding is usefull when the Pulse is small & contracted & great depression of Strength. & is when an irritable Surface is affected & general Inflamatn as ye Diaphragm or Intestines. in these Cases the depression of Strength, & Symptoms of Irritation are very great, yet the Pulse is still to be felt hard & Bleeding is ye only thing we can depend upon for the Cure.

In all Cases of spontaneous Hemorrhage with Symptoms of Plethora & Inflamatn. Bleeding may be used advantageously. & is the only best way of putting a Stop to & curing ye Disease.

If Hemorrhage takes place in weak habits from Relaxation, Bleeding is, in such Cases always hurtfull. & Barth st. Strengthners should be used for to cure ye Disease. When arises from increased arterial action, bleeding is of great use in stopping it.

Bleeding is often employd in the Case of Fevers but it has not the least tendency to cure a fever, only takes off the strong action of the Vessels. should never be used unless there be Symptoms of general Inflamatn. as it will most certainly hurt & ye Disease has not continued long.

It may be used at ye Beginning of fever before Symptoms of Inflamatn take place when from too great quantity of Blood the Vessels cannot act sufficiently upon it in consequence the Secretions & functions of ye Body are imperfectly performed & ye Disease prevented from assuming its regular type by Bleeding in such Case are often change a continued into an intermitting Fever.

In young Women Spasmodic, & Nervous Diseases sometimes proceed from Obstruction, in wh. Case we should evacuate before the use of Anti-spasmodic, & Remedies diminishing the Irritability of the System.

In Obstinate & robust habits we should never exhibit y: Bark till Evacuations be premised as this Medicine in such Cases at y: same time that it diminishes y: Irritability of the System increases the action of the Heart, & attends to producing general Inflammat: &c.

The Gout has all y: Appearance of an inflamat: Disease, when it arises in a Man of a Sanguine, Melancholic Temperament in such a habit when the Symptoms of Inflamat: run very high we may Bleed w: advantage, but if in general we should be very cautious of Bleeding in this Disease as it often makes the Gout seize the internal parts as the Stomach &c. and so may render it suddenly fatal when it otherwise w: not be attended with any great danger.

Lect: 66th May 25th 1772

The Classes of Medicines already treated of we might suppose to exist a Crisis viz: Stimulants, Antiseptics, Relax: & Stimulants but the next two we could not imagine to exist but from Experience viz: Anti-spasmodics & Narcotics.

Anti-spasmodics are Medicines tending to remove all preternatural contractions & action of the moving parts.

 There are some preternat: actions which anti-spasmodic Remedies have not a power of removing.

Diseases were distinguished into such as arose from some particular Matter in the System, & such as arose from preternat: action of the diff: parts only. the latter were called Spasmodic Diseases, but many of the former cannot depend upon any Matter, at least it is insensible to us, we therefore deny its existence. & yet in these Diseases Anti-spasmodic Remedies are not usefull, but often improper. Diseases have been called Spasmodic, when they went through their Courses irregularly, all incidentary, & irregular Muscular Contractions are called Spasms.

+ All Anti-spasmodic Medicines are Stimulants and when they cannot exert their Anti-spasmodic, they exert their Stimulant power, are therefore very uncertain in their Operation.

although they cannot always take off Diseases that are now fixt, yet, they tend in many Cases to remove it.

Vol: alkali has been employed in inflamat: of the Thorax, where by its Anti-spasmodic power it has sometimes been of use, but much oftener hurtfull & should never be employed

in Chly monaus inflamat. of any kind, Exhibited in Peripneumony attended w. inflamat. of the Lungs they are hurtfull, but in Coughs arising in winter merely from y. contin. applicat. of Cold, without any particular inflamat. taking place they are of service.

Antiscorbutics applyd externally are much more usefull. In deep seated inflamat. they are the most proper & efficacious Rubefacients, externally applyd. they are very properly applyd w. Fomentations & Cataplasms w. we wish to act as Emollients, if joined w. these they greatly assist their Efficacy.

They have a tendency to cure fevers, & will sometimes carry off fever entirely, but they are much oftener ineffectual, & almost always do Mischief when they are not serviceable. We dont employ them in the beginning, but towards the end of continued fevers. Camphor in particular has been employd but without any great Efficacy.

Antiscorbutics have been used in Intermitt. during the Intermission to prevent y. return & the Barygen Musk in particular has been thus employd & sometimes with success, they sh. be exhibited in pretty large Quantities & may be properly joined w. Narcotics, as we cannot depend much upon them alone.

In Rheumatism where Rubefacients cannot be advantageously applied they can seldom be exhibited but where Rubefacients are proper, those of the Antiscorbutic Class

it should always be preferred. Quicksilver and Volatile Alkalies are the best, and have often been used w. considerable Success. And if these have some times been employed w. success to procure sleep when the common preparations of Opium and Liquor Anodyne failed

In Spasmodic Complaints they are often very powerfull in removing the Disease when present, but have very little tendency to remove the Disposition of falling into y. Disease, but by encreasing the irritability of the habit often render it more susceptible of the Disease & therefore encrease it, rendering y. Paroxysms more frequent, & are most efficacious when internally applyed.

In other Cases they have a tendency if exhibited in the interval of the Paroxysms of Spasmodic Diseases, to carry it off entirely, & cure the Disease whilst if exhibited in this Case during the presence, or immediately before y. attack of the Paroxysm they have very little, or no good effects. These Effects seemingly so contradictory depend upon the particular Habit of y. Patient if the Patient be of a weak, & irritable habit they by encreasing this disposition do mischief but are more immediate efficacious if exhibited during y. Paroxysm. If y. Patient be of a plethoric, & robust habit their effects are rather less certain, but more usefull.

In Hysteric Complaints the Patient is always weak, & irritable, & in Spasmodics these have almost always a tendency to carry off the Paroxysm if exhibited during its attack, but if they are exhibited in y. present Case during the intermissions of d. Paroxysms by encreasing d. irritability, they encrease y. tendency to y. Disease and do mischief.

The effects of Antispasmodics in hysteric Dis-
-eases are more uncertain than any other Medicines
if exhibited at y. attack, or during a paroxysm they some-
-times instantly cure it, & whilst at other times in circum-
-stances exactly similar they produce no good effects.
In perfect Epilepsy, & Convulsion fits they
have very little efficacy if exhibited internally,
but are more frequently useful externally ap-
-plyd particularly in Convulsions, & in spas-
-modic Diseases having sometimes a tendency to cause
them, & such particularly as return periodically, altho' if
taken internally, during the intermission of the paroxysm
No Medicine is always successful in Epilepsy
the true Convulsion fits, and other similar Diseases
often baffling our utmost efforts. Antispasmodics
however seem to be as efficacious, or more so than any
others.
In the Tetanus Antispasmodics have neither
been employed internally, nor externally w. any
very general success, altho' the Disease has gone
off during the Exhibition of Opiates, & Antispas-
-modics in some instances as Musk, Opium &c
yet the Disease in such cases seems to have gone
through its natural course rather than to have been
cured by the Medicines exhibited.
In the Rises Sardonicus, Hiccup & others of
the same kind Antispasmodics have been
sometimes exhibited w. great success, and at other
times with none their effects as in Hysterical
Disorders being very uncertain.

In Cartarictus in place of y. proper pain, & mus-
-cular contraction necessary for expelling the fæces,
unnatural pain sometimes takes place in such cases
antispasmodics have often been exhibited w. good success

they tending to take off the unnatural, & tending to restore the natural Muscular Contractions & Labour Pains that are necessary for the Expulsion of the Child.—

70. Fevers, Inflammation, & Rheumatism are preternatural actions of y. Vessels which do not depend upon any Matter in the habit, yet we do not call these Spasmodic Diseases.

Spasmodic Diseases are principally known by their coming on without any apparent Cause, and having no natural Cause that we know of.

Animal Poisons have generally an effect to produce Spasms in diff.t parts of y. Body, and these Medicines seem to be of more general use in such Cases, than in any other Complaints in which they have yet been used.

Containing of Lectures from
No. 45. to No. 66.